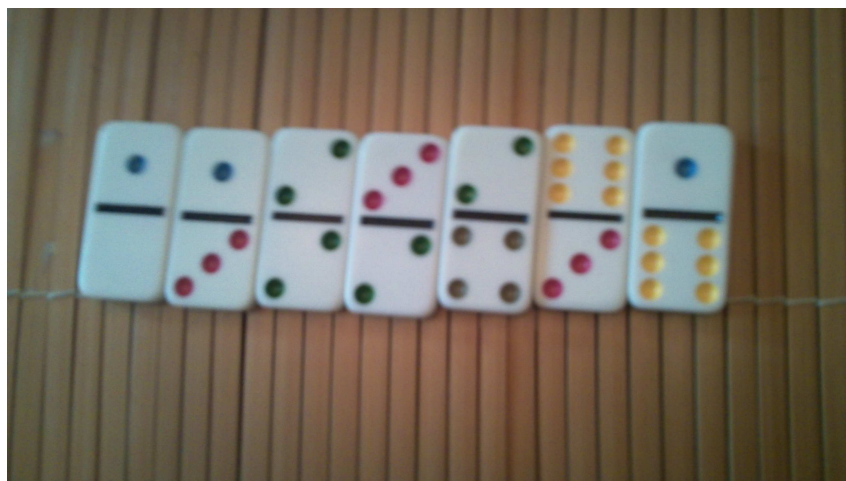


Dominos For Schools



by Steve McCrea
Edited by Mario J. Llorente Leyva
Rules and Glossary by Mario
**Learn more (and find the link to the free
ebook) on Abcdominos.com**



How would Mario organize these tiles? Find out inside.
(page 33)

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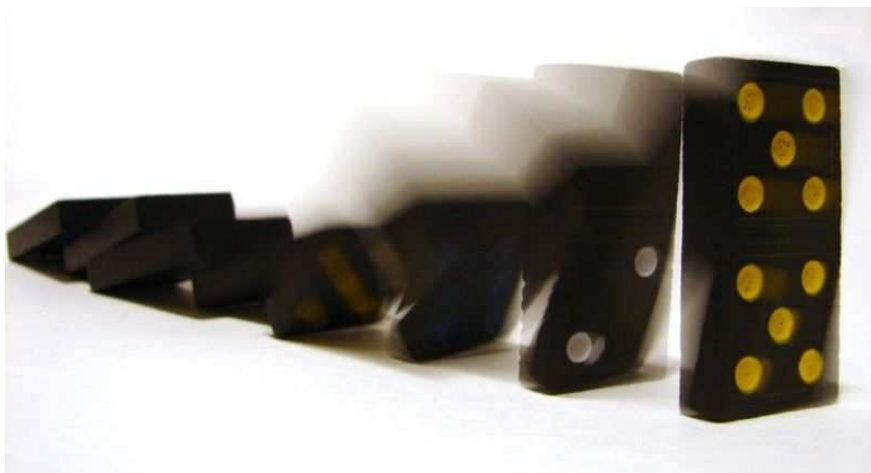
[Youtube.com/ABCDominos](https://www.youtube.com/ABCDominos)

Introduction

Dear Teacher

This is a short book. It's one of the quickest books you have ever read. If you are a visual or audio learner, click on the videos (on the website ABCDominos.com). In fact, you can get the main idea after reading this page. Then tell your colleagues about it.

1. The game that many people in the USA call **"Dominos" is just a game.**
2. The game of dominoes that many US kids learned to play has rules that promote individual competition -- **it is "every player for himself."**
3. The rules used by most players of dominos around the world create partners -- it's still competitive, but the game also teaches **collaboration and teamwork.**
4. Collaborative skills that are gained by **playing bridge** (recommended by Bill Gates and Warren Buffett) are **more quickly taught with dominos.**



5. **The game is spelled "dominoes"** in the USA and is often associated with individual players (similar to the card games Hearts and Rummy). Dominoes are used to create "knock them down" demonstrations of "the domino theory." I would like you to join me in

writing **"dominos" to indicate the team game** that uses collaboration versus "dominoes," which are used to create "knock 'em down" displays.

6. Even the way that children in the USA **count the points** is mixed up -- you'll learn more in "Myths about Dominos" (chapter B).

There you have it -- the entire book on one page. If you grew up in the USA, you probably learned dominoes the way I did: every person for himself. Your world just got bigger (the way my world changed when my friend and collaborator Mario Llorente described the International Rules of Dominos).

THIS BOOK is FREE on the Internet: You can take your time looking through this book or you can download it free from scribd.com **"free book about dominos dominoes for teachers McCrea Llorente"** is the search phrase. It's also available at ABCDominos.com

Let's get right into this book. You are a teacher, so you don't have time to spend on elaborate descriptions of history and theories about why dominos is excellent for mental development (you can learn those pieces in Mario's other books). Let's get through the table of contents and then **explore the myths of this mental activity.** In chapter C I

describe **the math behind dominos** and, by then, you will want to know the "real rules" of the collaborative game. Mario will give those rules and glossary of terms, followed by a general description of the game (which you can skip if you are in a hurry). The important **strategy of "the block"** and how to gracefully **communicate with your partner** are described in Chapter F (from a transcription of a series of videos that we encourage you to watch on Youtube). The book ends with an "end note" that gives you the directions for **spreading this fascinating activity** through your school and school district.

So, from one teacher to another, thank you for taking time with me today.

Steve McCrea, teacher SteveMathTeacher@gmail.com
Call me and let's talk about how to get dominos in your school
+1 954 646 8246
Skype SteveEnglishTeacher



*I founded Building International Bridges, Inc., a non-profit that aims to remove obstacles to communication. Learn more at **BuildingInternationalBridges.org***

*I teach teachers and parents about innovative teaching strategies at **GuideontheSide.com** and **VisualandActive.com** -- invite me to your school so I can learn by observing your innovative teachers.*



BIB Penpals connect your students with my students of English (who want to learn the U.S. accent). Learn more by visiting the Youtube.com channel BIBPenpals.

If you have ideas about how to teach the global skills needed by students in the next century, let's talk.

Table of contents

A. Introduction (Letter to you, the teacher)

B. Seven Myths about Dominos

C. A Math Teacher Looks at Dominos

Dominos or Dominoes?

D. The Rules (by Mario J. Llorente Leyva)

Glossary

E. Mario's story about Dominos

F. The Block (transcription of a game shown by Mario)

Mario describes step-by-step the con

G. Resources for More Learning

End Note



B. Seven Myths about Dominos

Myth 1. "I could never introduce dominos in my classroom -- the kids will lose the tiles or start throwing them at each other."

Reply: If this is a concern, print out the dominos on paper. There are several websites that give photocopiable sheets with the tiles distributed on them.

Photocopiable sheet: <http://www.first-school.ws/theme/printables/dominoes-math.htm>

Myth 2. "Chess is a better game for teaching thinking."

Reply: Chess is an individual sport. It is excellent for encouraging persistence and critical thinking, but what does it do for collaboration?

Myth 3. "Dominoes is every man for himself. You can't teach collaboration with dominoes."

Reply: Ah! The rules of "team dominos" are set up so that you play with a partner. It's you and your partner against a second team of two.

Why is collaboration so highly valued? Look at the list of Seven Global Skills (compiled by Tony Wagner, a Harvard professor):

Collaboration

Critical thinking

Creativity and imagination

Communication skills

Initiative and entrepreneuring

Adaptability and agility

Accessing and analyzing information

CCCC I AA These

are the seven skills of dominos.



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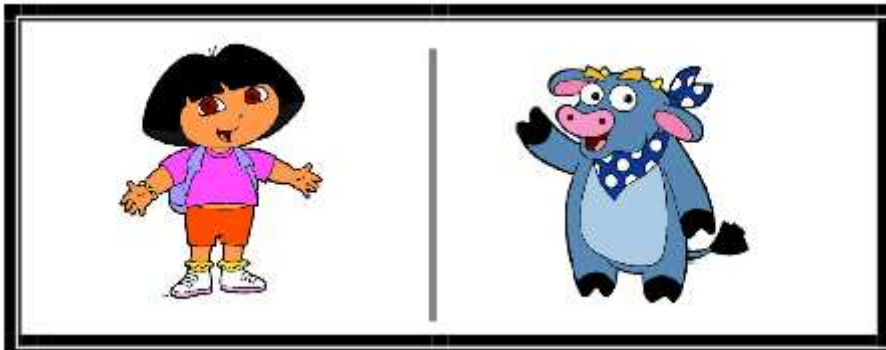
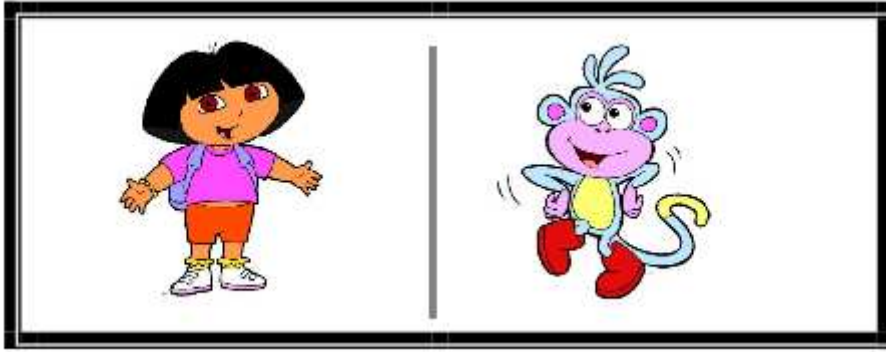
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Tony Wagner, Co-Director

Myth 4. "We can't play dominos without numbers."

Reply: Oh? There are free printouts that you can get on the Internet that have seven images to replace the numbers. The downside of this game is that the relative differences between tiles are removed. The strategies of blocking and ending the game in a variety of ways (either reducing your exposure or claiming as many points as possible) are reduced or eliminated when numbers are removed from the game.



Here is a website that offers a free printout without numbers (a fun game, but it lacks the level of sophistication that dominos provides).

<http://www.gameideasforkids.com/dominos%20pdf/dominos%20dora%20p1.pdf>

NOTE: Dominos without numbers is a clever way to introduce one part of dominos to children. Children can recognize patterns before they develop a deep understanding about numbers, so it makes sense first to allow students to learn the matching aspects of dominos without numbers, then to ask them to use tiles that have numbers. (For more about the stages of development related to numbers, see the work of child development psychologist Jean Piaget.) The danger of using dominos without numbers is that the activity can easily degenerate into an “every person for herself” sport. We want to make



sure students have a complete exposure to the brain activities associated with the international rules of dominos. We have given you this electronic book because we want students to have the experience of playing team dominos.

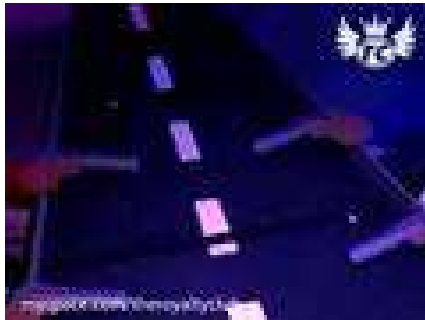
Myth 5. "We use the tiles to demonstrate the principles of physics, to develop patience when setting up

the tiles and to develop creativity with new arrangements. The traditional game is not useful for academics."

Reply: Yes, "knock 'em down" is a delightful activity and many intricate and imaginative ways of setting up the tiles for collapse.

See Videos of "knock 'em down": Search key words like
"Over FOUR Million Dominoes - It's A New World Record"

Mario has identified the world's record for the number of tiles involved in a "knock 'em down" display.



2:40

*Over **FOUR** Million **Dominoes** - It's A New **World Record**
The **record** is 4,079,381 **Dominos**. But yes, this **IS**
the **record**, but what I'm saying is that there is **MUCH**
more **dominos** than a million involved here ...
by royaltyclub | 4 years ago | **2,533,174 views***

3:47

Domino Day 2008 The New World Record:

4,345,027 dominos

*by gabopictures | 2 years ago | **1,903,922 views***

3:49

**Guinness World Record - Longest /
Biggest Domino Line Ever**

*This is the longest **domino** line ever*

*by ShanesDominoez | 1 year ago | **378,074 views***



These accomplishments are amazing, but they fall short of the mental gymnastics that dominoes can deliver when it is played as "team dominos."



Myth 6. "Bridge is an excellent way to prepare students for team building. After all, Bill Gates and Warren Buffett advocate bridge in schools."

Reply: True, there are aspects of the bidding

when the game of bridge begins that depend on collaboration. However, while the hand is being played, what happens to the partner of the winning bid? That bridge partner sits back.

Teachers need to build a culture of cooperation in many of their classes. The buddy system is important for students to learn to develop trust in another person.

Communication with the partner is ongoing during dominos and the rules are learned more quickly than the rules of bridge.

Go ahead and **introduce bridge** in middle school, as suggested by numerous bridge advocates. But **start with dominos** in elementary school.



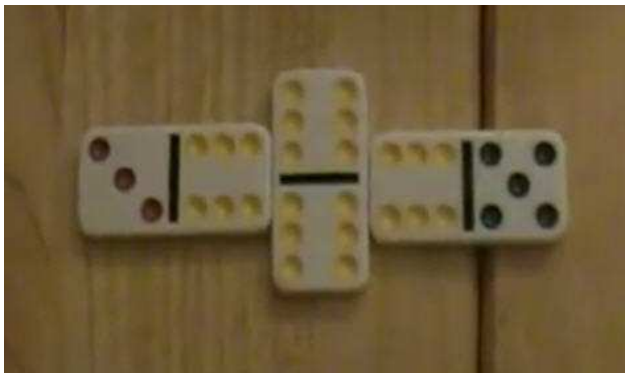
In an article in the New York Times, *"To see seventh and eighth graders sitting and **concentrating for three hours**, it never happens **except in bridge**," said Bud Brewer, whose nonprofit group, Reno Youth Bridge, held a tournament in April after teaching the game to 160 students in 14 public middle schools and three private schools in Reno and Sparks, Nev.*

Reply: Oh? If educators took time to go to South America and watch **kids playing dominos**, they might be surprised how long children sit together.

This photo (above) comes from a youtube video showing Gates and Buffett playing bridge. Why not also play dominos, the team sport?

Myth 7. "Dominoes is child's play."

Reply: The way the tiles are played by children in the USA -- yes, that game has elements of many children's games. Individual, every man for himself, and scoring is done differently from the "team dominos" way. When you teach students the team dominos, you give them a lifetime of working with a partner.



In short, there are many reasons to introduce dominos into schools. Here's a point that Mario often tells me: "If your mind is trained for more things, you will be better equipped for life. If I only have to remember information for quizzes and tests, I will not be ready to memorize other important things. Dominos trains retention."

C. A Math Teacher Looks at Dominos

I have taught math since 1972 when a teacher asked me to coach a classmate through the complexities of algebra. I hold a teaching certificate in the State of Florida for Math levels 6-12 and I teach an SAT course at Broward College in Fort Lauderdale. My website **SATVideos.com** is used by hundreds of students. I'd like to tell you about **the mathematics behind dominos**.

(If you want to start playing, you should skip this chapter and go directly to Mario's description of the rules...)

There are three ideas that we can convey to students:

a) probability, b) combinations and c) collaboration.

a) probability

Ask your students: If you hold the 5/5 and you see 5/4 and 5/6 on the table, how many other tiles are in the hands of the other players? There, you've got your students thinking about probability.

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b) combinations

How many combinations are in the dominos set? Why are there **34 dominos** in the typical set of tiles? You can get the students to discover the answer by asking them to arrange the tiles in a pattern -- and let them create their own patterns.

ANSWER at the end of RESOURCES (Chapter G)

c) collaboration.

Is math about collaboration? Yes. You and I grew up doing math with friends, with parents, with neighbors... and then we went to school. We sat in chairs and we were told to "**keep your eyes on your paper and don't look** at the work of other students."

There are fabulous books about collaborative or creative games and activities with math. A textbook that I learned with, Heutinck and Kramer, claimed that U.S. schools typically cover **a lot of material at a shallow level**. A typical 45-minute class might do **15-20 problems**. In **Japan**, according to the textbook, a typical class tackles at most **three exercises** in a session. (Notice the difference in language: USA has problems and Japan has exercises.) Many teachers in Japan give time for elaboration and teamwork to let students find several ways of solving problems.

Have you read "A Mathematician's Lament"? It's a 30-page essay by Paul Lockhart.

Here are some extracts:

Discussions between "Simplicio" (the simple one) and "Salviati" (the saved one):

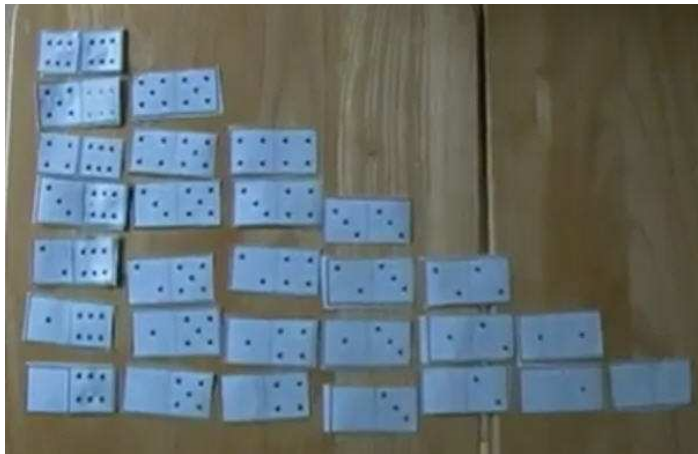
SIMPLICIO: But isn't one of the purposes of mathematics education to help students think in a more precise and logical way, and to develop their "quantitative reasoning skills?" Don't all of these definitions and formulas sharpen the minds of our students?

*SALVIATI: No they don't. If anything, **the current system** has the opposite effect of **dulling the mind**. Mental acuity of any kind comes from solving problems yourself, not from being told how to solve them.*

=====

SIMPLICIO: But surely there is some body of mathematical facts of which an educated person should be cognizant.

*SALVIATI: Yes, the most important of which is that **mathematics is an art form** done by human beings for pleasure! Alright, yes, it would be nice if people knew a few basic things about numbers and shapes, for instance. But this will never come from rote memorization, drills, lectures, and exercises. **You learn things by doing them** and you remember what matters to you. We have millions of adults wandering around with "negative b plus or minus the square root of b squared minus 4ac all over 2a" in their heads, and absolutely*



no idea whatsoever what it means. And the reason is that they were never given the chance to discover or invent such things for themselves. They never had an engaging problem to think about, to be frustrated by, and to create in them the desire for technique or method. They were never told the history of mankind's relationship with numbers.

More importantly, no chance for them to even get curious about a question; it was answered before they could ask it.

=====

*A good teacher can guide the discussion and the flow of problems so as to allow the students to discover and invent mathematics for themselves. The real problem is that the bureaucracy does not allow an individual teacher to do that. With a set curriculum to follow, a teacher cannot lead. There should be no standards, and no curriculum. Just **individuals doing what they think best for their students**.*

I made this extended quotation from Lockhart's essay in the hope of driving you to look up his materials. Please search "Mathematician's Lament." See this interpretation <https://sites.google.com/site/theguideontheside/home/math-teachers-lament>



I told you all of these things to get you in the mindset to receive the following information:

Dominos when played as a team ("**team dominos**") is an **engaging activity**. Team Dominos promotes mental math at the end of the game (when adding up the points). The students see how their blocking strategy might or might not pay off with the scoring system used in international (team) dominos. There are strategies that Mario taught me that are not rewarded by the rules of individual dominoes.

Dominos or Dominoes?

As a math teacher, I must stand up. Too often U.S. students are given the idea that it's okay to learn metric system, but it's only when you go traveling or if you work in certain industries. Excuse me?

Look at the list of items that U.S. students are told "oh, you don't need to know how to convert that...":

Be strong: try to **convert these measurements** (answers in Chapter G):

gallons or quarts to liters

F to C

miles to km

yards to meters

inches to cm

pounds to kg

100 miles = ?

100 km = ?

10 liters = ?

25 degrees F = ?

10 gallons = ?

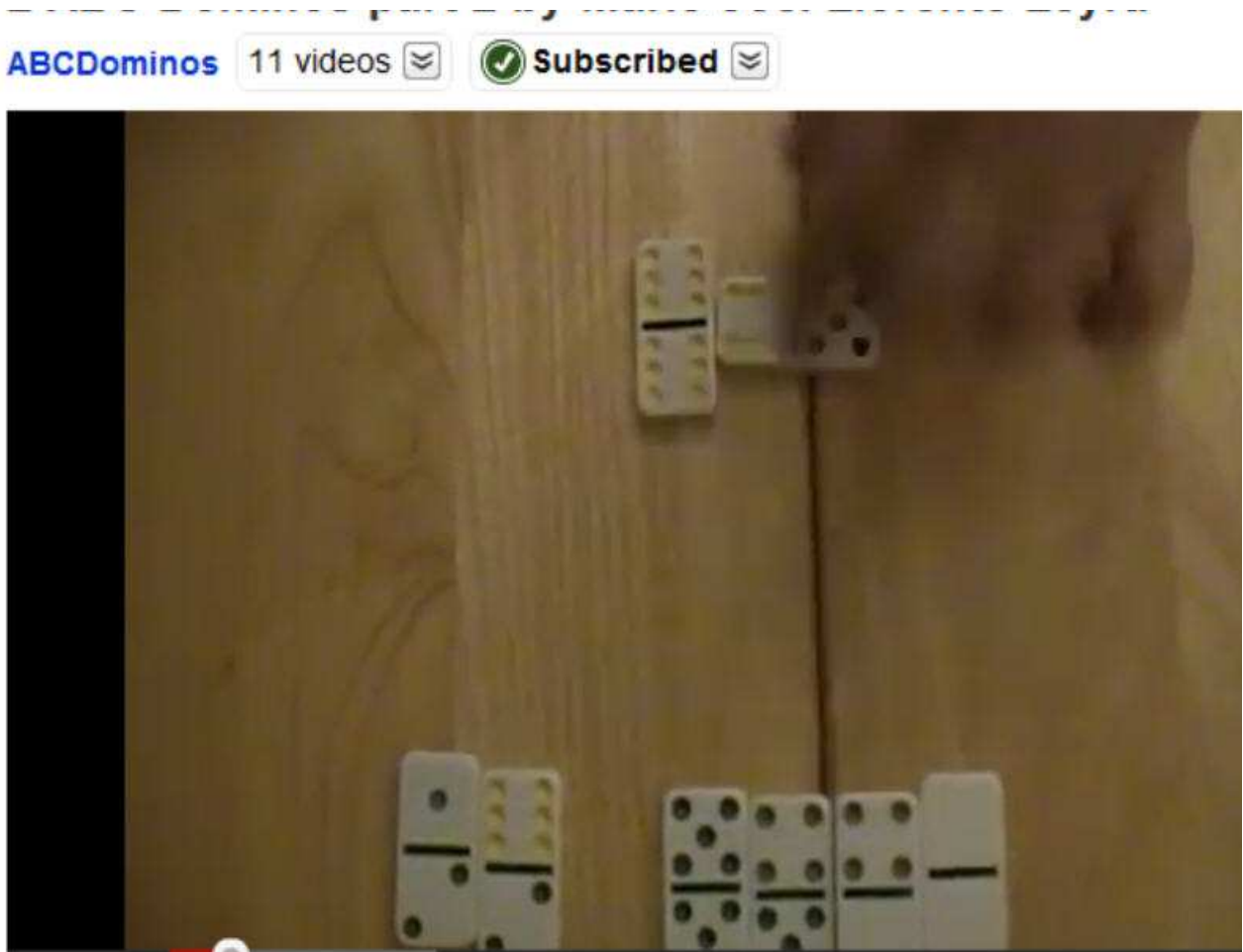
10 pounds = ?

10 kg = ?

... and now "dominoes" and dominos.

Billions of people call the activity "**dominos**" and several hundred million English speakers insist on using the plural like tomatoes, potatoes and mosquitoes. Stand firm, teachers. Use the word "dominoes" to describe the "knock them down" displays of physics and to refer to the individual domino games. When you refer to the **team** version of **dominos**, please drop the "e" in the plural.

As a math teacher, I encourage my students to speak flexibly. They can move from 320 kilometers to 200 miles, from 372 liters to 100 gallons, from 100 kilograms to 220 pounds, from 30 degrees C to 86 degrees F.



Find this video on [Youtube.com/ABCDominos](https://www.youtube.com/ABCDominos)

We will go into deeper game theory in a larger book. In fact, search on the Internet for "Mario Llorente dominos" and see what a prolific author my collaborator is. After this short book, you will have plenty of things to look at to deepen your awareness of this remarkable mental activity.

D. The Rules

by Mario Joel Llorente Leyva



Material: a 28-tiles set (up to double six only)

The game: Dominos is a pair games (**team game**). Partners on the same team sit across from each other. They never talk across. The communication between partners has to be strictly by “**pausing**” (the amount of time a player takes to execute his turn to play)

The game is played in a simple way.

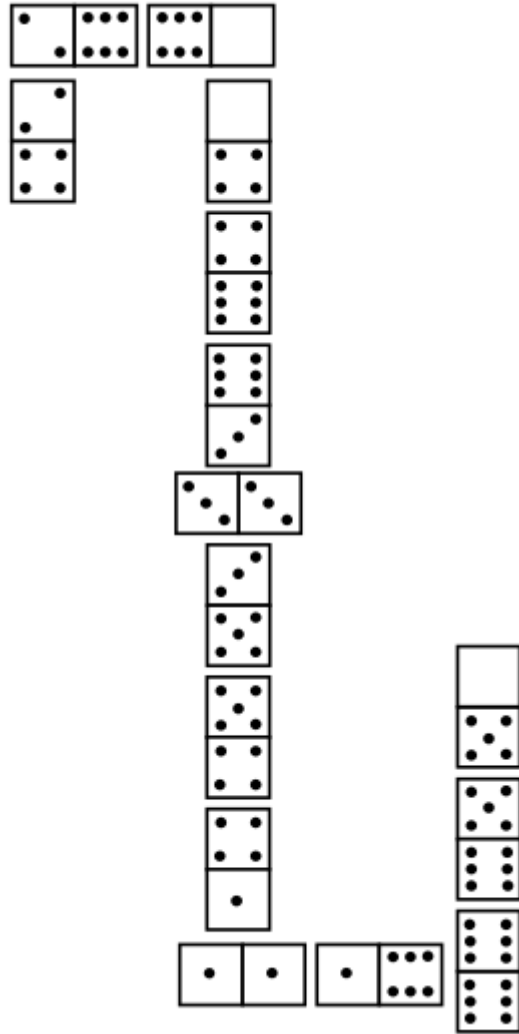
Numbers that are the same connect together:

a 5 with a 5, a 3 with a 3.

In the diagram below, you see how each tile's end matches the end of the tile that touches the first tile. When a double tile is played (5/5 or 3/3, for example), you twist the tile (like 3/3, 1/1 and 6/6 in the diagram).

In the diagram, you can see that the HEAD and the TAIL are the only places where the next player can add a tile (or you can say, "The two heads"). If I have a tile with a 4 or a blank, I can play (in this situation).

If a player cannot play a tile, it is defined as a “**pass**,” and the player will verbally say, "Pass." A **pass** is the best form of information of dominos, since it says unequivocally that the player does not have one or more suits in his hand. Example: if both heads are 3's and a player passes, we all know that the player does not have a tile with a 3. If one head is 3, and the other head is 5, and a player passes, it means the player does not have 3's or 5's.



Rules

1. To start the game, put all the tiles face-down and shuffle them (slide them around the table, making a motion like a swirling whirlpool).
2. The lead player will be chosen by any agreed method. A common way is by a member of each team drawing one tile from the pack before you distribute the tiles. The player with the highest tile wins. **What if a player draws 5/3, which adds up 8 points, and another player draws 6/2, which also makes 8?** Then the player with 6/2 will win, since 6 is a higher number than 5. The four tiles are put back in the pile and shuffled to prepare for distribution.
3. Each player will draw 7 tiles. If a player accidentally draws more than 7 tiles and has not yet seen them, then the player missing the tile will draw it from the player with too many tiles. If the tile has already been seen by the player, then a re-shuffle will be asked.
4. The game will be played **COUNTERCLOCKWISE**. After the lead player has played, the player on the lead player's RIGHT will play next.
5. The player who plays his seventh (last) tile will grant victory to the **team**. When that happens, **all the points in all remaining tiles are counted** and added up to that team's scoreboard.
EXAMPLE: If you and I are partners and you end the game. I hold the 6/1, the other team holds 5/2 and 4/2, then the winning team gets $6 + 1 + 5 + 2 + 4 + 2 = 20$ points.
6. The games will be played up to **200 points**.
7. In certain occasions, the game will be '**blocked**' or '**jammed**' meaning that no more tiles can be played. Both members of each team will put their tiles together and count the points; the team with fewer points will win the hand.

Example: You and I are partners and the game is blocked. You hold 3/3, I hold the 6/1, the other team holds 5/2 and 4/2, then our team is $3 + 3 + 6 + 1 = 13$ and the other team is $5 + 2 + 4 + 2 = 13$. Oh, no! A tie? Not in dominos. The team with the lowest numbers will win. You and I have a tile with a 6, but the other team wins because their highest number is 5.

8. If a player plays a **tile that does not fit** in either head, the opposing team will be awarded with 30 game points. (*Look carefully before you make a play.*)

9. If a stone (also called a "tile") is uncovered or exposed by whatever reason, the opposing team gets 30 game points awarded. (*Don't drop your tiles!*)

10. **If a player talks** in any manner that exposes his/her game to the other players, the opposing team is awarded 30 points. *Example: You cannot say, "I have two 5s and two 6s."*

*You can find the "North American" rules at "Anglo" websites like **domino-games.com/domino-rules/domino-basics.html**. Mario has evaluated these "standard" rules (for North American players) and found some differences with the international rules (which are used in Cuba and throughout Europe, South America, Africa and Asia). The team dominos uses the rules that Mario has described above.*

Tip: Until you learn how to play double-number tiles effectively, make it a rule to "**get rid of them**" quickly. If you are the lead player and you have 6/6, 5/5 or 4/4, lead with them. Use a high numbered tile to lead (since you are generally trying to reduce the number of points that can be scored against your team).

Tip: When you first introduce dominos to your class, turn up the tiles in the four hands so that all students can watch the play. The students can even recommend the next move and analyze what might have been a better move.

Glossary

Ace

The end of a domino with one dot.

Back

The "back" of a domino is the side opposite the numbers. The back is often free of any adornment, but may also contain a design, logo, or other pattern. All dominoes must have identical backs, so that players cannot tell what dominoes they are drawing.

Bar

The "bar" is the line separating the two ends of a domino. Also called the "center" or "divide."

Blank

A "blank" is an end of a domino that contains no dots. If both ends are blank, then it's called a "double blank." A blank is also sometimes called a "zero" or "white" (from *blanco* in Spanish).

Block

A "block" or "blocked game" is a game in

of a game. The situation is also called a "jam."

Bone

Domino pieces are sometimes called "bones," because they were originally made of animal bones or ivory. Today they are often made of plastic, ceramic, or wood. The tiles are sometimes called "stones," "tiles" or a "domino."

Boneyard

At the beginning of a game, when all the dominoes have been turned face-down and shuffled, the collection of mixed-up tiles is called the "boneyard." Players draw tiles from the boneyard to form their hands.

Deuce

The end of a domino with two dots.

Domino

A tile used in a game of dominos is commonly called a "domino." To "domino" also means to play the last tile in your hand, which typically ends a game or hand.

Dominoes

The word "dominoes" can refer to both the game of dominoes, and the domino tiles that are used to play the game. In this book, dominoes refers to the individual "every person for himself" game.

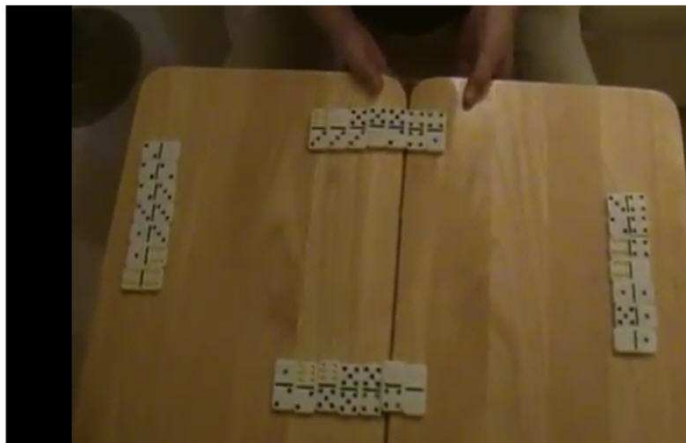
Dominos

The correct way of spelling the game in Spanish. In this book, dominos refers to the international team game.

Dot

Each domino contains some number of "dots", usually from 0 to 6, but up to 18 in some sets. A dot is also called a "pip" or a "spot."

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which no player is able to place a domino on the table. This typically signals the end

Double

A domino with both ends having the same value. For example, two sixes is called "double-six", and two ones is called "double-one."

Draw

When you transfer a domino from the boneyard into your hand, this is called a "draw."

End

A domino tile has two ends with a center dividing line. Each end has a number. A domino is referred to by its numbers, so a domino with a 2 on one end and a 5 on the other is called a 2/5 (or a 5/2). A domino with both ends having the same value is called a "double."

Hand

A "hand" is the set of dominos that each player holds. Contrary to the name, the dominos are usually not held in the hands, but are placed edge-wise (vertically) on the table in front of the player, so that the player can see their values, but the opponents cannot. When playing a game that consists of multiple rounds, each individual round in the game is called a hand.

Layout

The dominos that have been played. Also called the "table", "tableau", or "board." We often say, "The table doesn't lie" and we ask, "What is the table saying now?"

Open End

An "open end" is an end that is not connected to any other tile. Tiles may be played only on an open end. There are always two ends in basic dominos.

Pip

Each domino contains some number of "pips", usually from 0 to 6, but up to 18 in some sets. A pip is also called a "dot" or a "spot."

Set

"To set" is to put a tile on the table. It is also used to denote the first tile played.

Shuffle

At the beginning of a game, all the dominoes are turned face-down and "shuffled" in order to randomize the tiles so that no player knows where to find any particular domino.

Spinner

The first double that is played during a game is called the "spinner." In many games, dominoes can be played off all four edges of the spinner - both ends and both sides.

Spot

Each tile contains a number of "spots," usually from 0 to 6, but as many as 18 in some sets. A spot is also called a "dot" or a "pip."

Stone

Each domino or tile can be called a "stone" or "bone."

Suit

A "suit" is the collection of tiles all having the same number of dots on at least one end. Each suit has seven tiles. For example, the "sixes" suit consists of 6-0, 6-1, 6-2, 6-3, 6-4, 6-5, and 6-6.

Tile

Another name for a domino or a "bone."

Trey

The end of a domino with three dots.

This list is adapted from domino-games.com/glossary-of-domino-terms.html

E. Mario's story about Dominos

Mario likes to tell stories. Stories build culture in an organization, a school or company. If you watch games of dominos being played (the team version), you'll start to get into the culture of the play. You can even watch videos of the games on Youtube.

History

We'll explore some possible origins to the term "dominos," and also the emergence of the game as we know it today. Learning about these things will not help you play the game. However, it is an interesting journey into history and things that happened many centuries ago.

The term "dominos" refers to any of the various games that are played with the tiles we all know. The origin of these games is not as old as it may seem. Dominoes, as a game, only made its appearance in the early 18th century in Europe. Naples and Venice were the first Italian cities where the game became popular (since they were ports). From there, the game rapidly spread all over Europe and later to the Americas with the colonizers and seamen who frequented the New World.



The dominos used today to play were not always playing tiles. Many centuries ago, dominos were used as a divination tool to foretell the future, a predecessor of the Tarot.

As for the term used today to refer to the game, historians conclude it comes from one of two sources: (a) because of their resemblance to the "domino," the winter hoods worn by French priests (which are white on the inside and black on the outside) or (b) from the word "dominos"

meaning Lord, since the winner of a hand would say, "Benedicamus dominos" (blessed be the Lord).

Today, dominos has become one of the most popular games ever played. Researchers estimate there are more than **one billion (1000 million) people** that practice the game. Some of the reasons for this level of popularity are that the game can be played by the whole family, any age, healthy or incapacitated, men and women. The game knows few limitations. However, the most important reason is that some of the games that can be played with these tiles are classified as the most mind-challenging activities that involve critical thinking.

A person exposed to the game of dominos frequently will train fundamental mind processes such as **induction, deduction, retentive memory**, which is capital in the process of developing short-term memory. Domino players are known to have an amazing

capacity to remember things. Analysis, heavy arithmetic training and decision-making are also among the main attributes of the game.

Most of the games with dominos are played by teams: One team plays another team and tries to win. However, winning takes one important factor: being able to **communicate**, being able to **build a team**, **cooperation**, the compilation of two ideas, two strategies that have to become only one, **the team strategy** to play correctly. Therefore, the game of dominos is also a machine that encourages cooperation, interpersonal relationships and team building.

*Mario gives you a hint about the aspects of **communications** that you can learn to increase your chances of winning. You can find a thorough description of techniques of communicating with your partner in his other books, including **The ABCs of Dominos**.*

How to play with a strategy

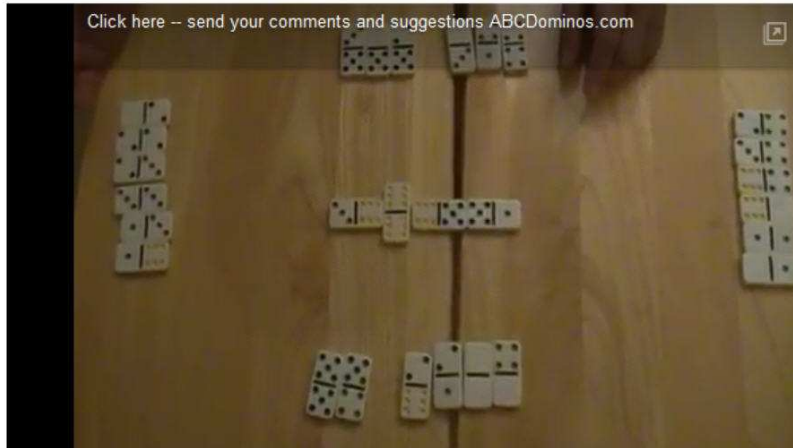
The strategy of dominos appears to be simple: play and play until all the tiles are played. However, that is only true to a certain extent. Far more complicated and interesting techniques and strategies await those who venture into the mystery of the dominos game.

Descriptive aspects

The game of dominos is a game of strategies. Most of the strategies are related to a simple purpose: (1) do not let the adversaries play all their tiles, (2) play all of your tiles. The key to the first point is to block the adversary from playing their tiles; hence it is **the**

ABCDominos 11 videos 

block game.



It is very important to understand the team nature of the block game. It is not you against the other team; **it is always you and your partner** against the other team. Since members of the team draw seven tiles each, we start by having all the strengths of the team divided into two groups, each at the hands of each player.

Now, let us be very clear about this: only the correct connection of the two hands can bring about victory. To connect two hands in dominos, **one more aspect is essential: communication.**

Communication tells our partner approximately what tiles we hold in our hands. However, there is **only one legal way to communicate in dominos: pauses**. A pause is defined as the amount of time a player takes to make his play. By logical reasoning, the more options you have, the more time you need to think. So, a long pause is interpreted as the player having more than one option to play.

Let's use a dominos example: If a player is going to cover a corner with a number 5, and **makes a long pause** before making the play, then we would have to assume that the

player has more than one 5, **possibly more than two 5's**. If a player covers a side **without pausing**, then we say **the player does not carry more tiles** of the one he/she is covering.

By **interpreting the pauses correctly** and retaining the information, players can create the right strategy to win.

F. The Block

A transcription of a demonstration by Mario on Youtube

Part 1 How to Block

<http://www.youtube.com/watch?v=oOgVw288WN0> <<< start here

Part 2 How to Block

<http://www.youtube.com/watch?v=WLNtC7LtOdk>

Mario describes step-by-step the concept of blocking....

Here are two key points:

1. Know the rules about scoring: Blocking strategy comes from the way that the points are scored. Please review the rules about how the points are added up at the end of a game. You will see that it is a good idea to block quickly if you have a low total score of tiles in your hand (if you don't have 6/6, 5/5 and 4/4). You will see that stopping the opposing team from finishing their hand will help you even if you are left with a 6/6 in your hand -- because you

will limit the damage that they can do to you if they block you.

AGuideOnTheSide 118 videos  



2. Temporary or permanent: A block can be temporary (causing the opposing team to skip a turn because they can't play a tile) or the block can be permanent and end the game.

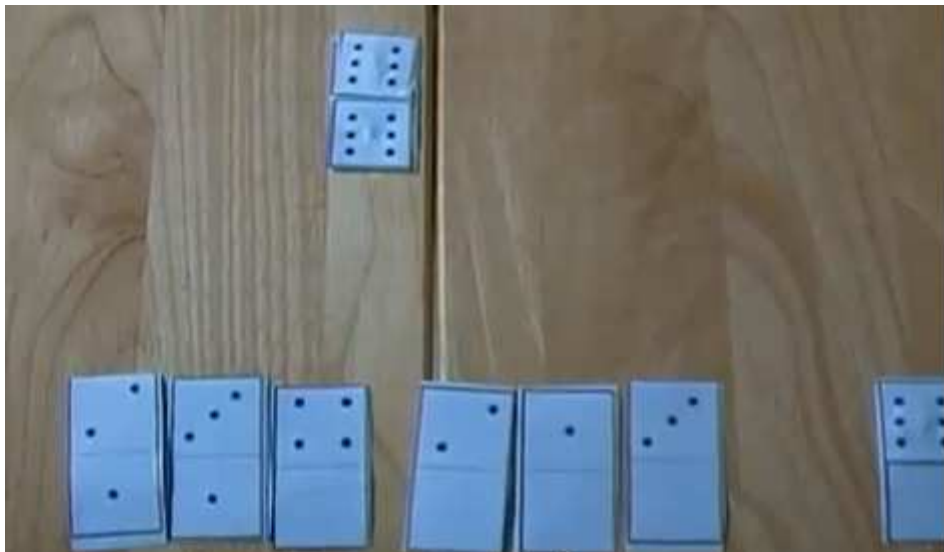
Let's go through a typical game to show you some of the steps. Do not worry if you don't understand the theory or why one tile is preferred to be played instead of a different

tile. Those concepts require a "higher level of thinking" that you can develop with more learning. The purpose here is to show you that **"team dominos"** is different and more challenging than "individual dominoes."

The block game is a "team versus team" game. The communication tool you will use is how you play the tile. You can do a fast move or a smooth move, an uncertain move or a confident move.

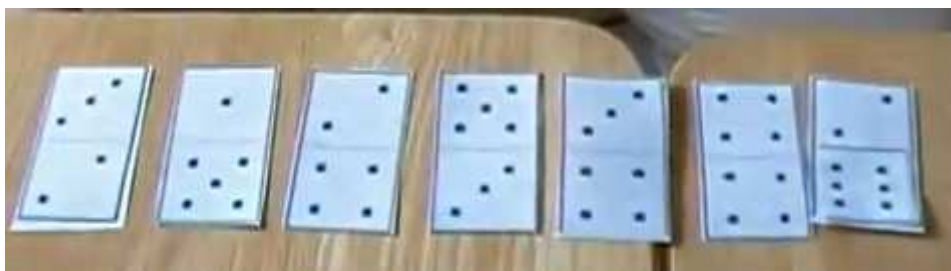
Let's note that a double (3/3 or 6/6, for example) is 50 percent limited compared to other tiles. However, it can become strong at certain times in the game.

In this demonstration, the double six (6/6) is played first by West (the person on the left side of the camera). The next player is South (shown in the photo) and the South player has one option that preserves her turn: a quick move with 0/6 -- communicating to everyone in the game that "I have no more sixes."

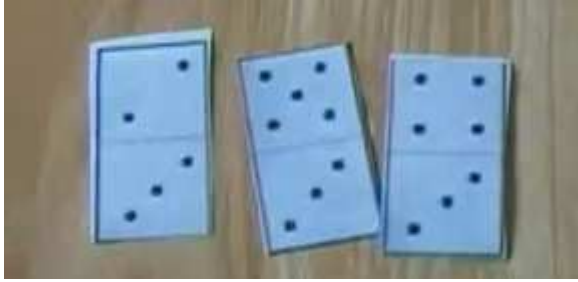


Blocking Game Figure 1

South to play: In 5:00, Mario says:
How can I lose better? How can I lose with the fewest points possible given to the opposing team? Many professional players of dominos say that the seven tiles talk to you.



In my hand (North), I can block anyone who has double three (3/3) because I have 2/3, 4/3 and 5/3.



I am North, so if East leaves a 3 showing, I can cover the 3 with one of these three tiles. I can block West if I cover the exposed 3. If the opposing team has 3/3, they could be blocked by me (this observation is made at 6:50 in the first video).

I know that I have no blanks. This is a missing suit.

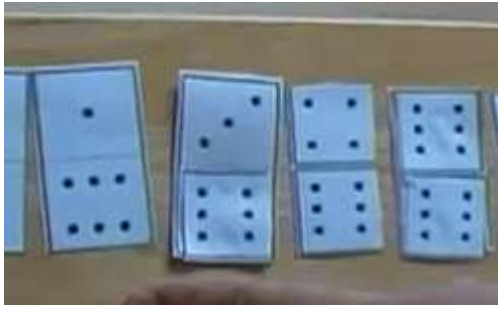
The start of the game (7:30 of the first video)

North was the dealer, West will lead (in the video, West is on the camera's left).



West has three doubles. Which tile will cost West the most points if West is still holding it at the end of the game? Of course, 6/6, so West plays the 6/6.

Notice that West has a strong suit (6) with four tiles that carry a 6. You call it a "strong suit" when you have four or more tiles with the same number. This means that there are only three more tiles out there with six.

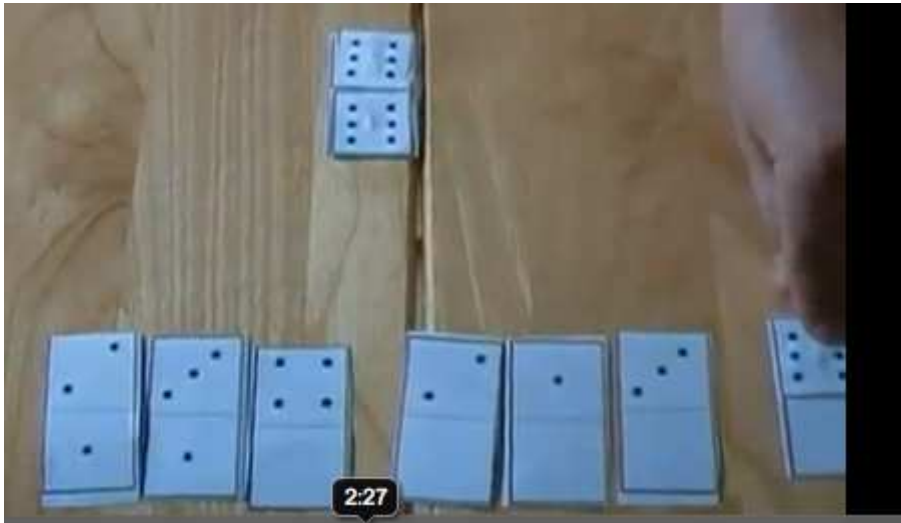


(By the way, Mario is upset that the 1/6 in the photo above and in the video is improperly set up. Do you see the difference? The six dots should be in two vertical columns of three dots in this photo, but the 1/6 tile has two sets of three horizontal dots.)

What is next?

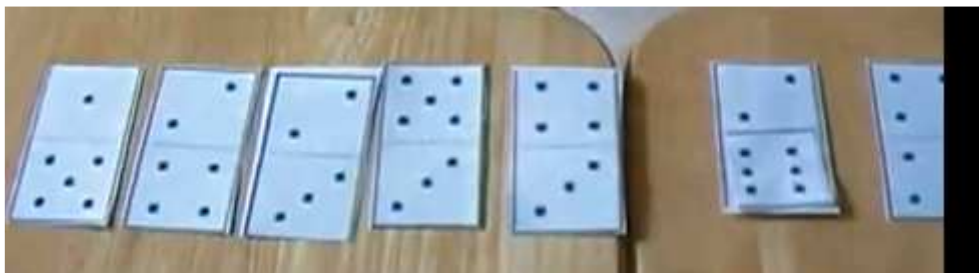
West needs to communicate to his partner that he has more than one six, so he will pause....then play FIRMLY the 6/6. The pause says "I have more than one double option" and the FIRM action means, "I am strong in this number."

*Let's continue in the next video (**Block part 2**)*



South wants to say, "I have no other sixes," so he plays quickly (no pause).

What happens in North's head? He's the partner of South, so he sees two sixes on the table. North has one six in his hand:



North has 6/2

... so North knows that there are four sixes in the hands of the opponent.

Now it is time for the East person to play.



So, 6 or blank? What should East do?

- a) How can East use the pause when playing the 6?
- b) How can East use the pause when playing a tile with blank?

In an introduction to dominos, you need to know the difference in the use of the pause. In a more advanced book, you can learn the consequences of playing a blank or a six tile in this situation. For now, since you are new to team dominos, **what is your answer about the use of the pause?**

.....

Here is the answer:

a) How can East use the pause when playing the 6?

Answer: There is only one tile with a six. If East plays the six, he must play quickly, without a pause, so that his partner knows that there is no other six. Because **there are so many fives** in his hand, Mario's method suggests that East can put the tile down **with great flourish**.

b) How can East use the pause when playing a tile with blank?

Answer: Look at the number of tiles with a blank. 0/0 and 0/5. Because there is a choice, the pause will tell his partner, "I had more than one tiles with a blank. I paused because I had to make a choice."

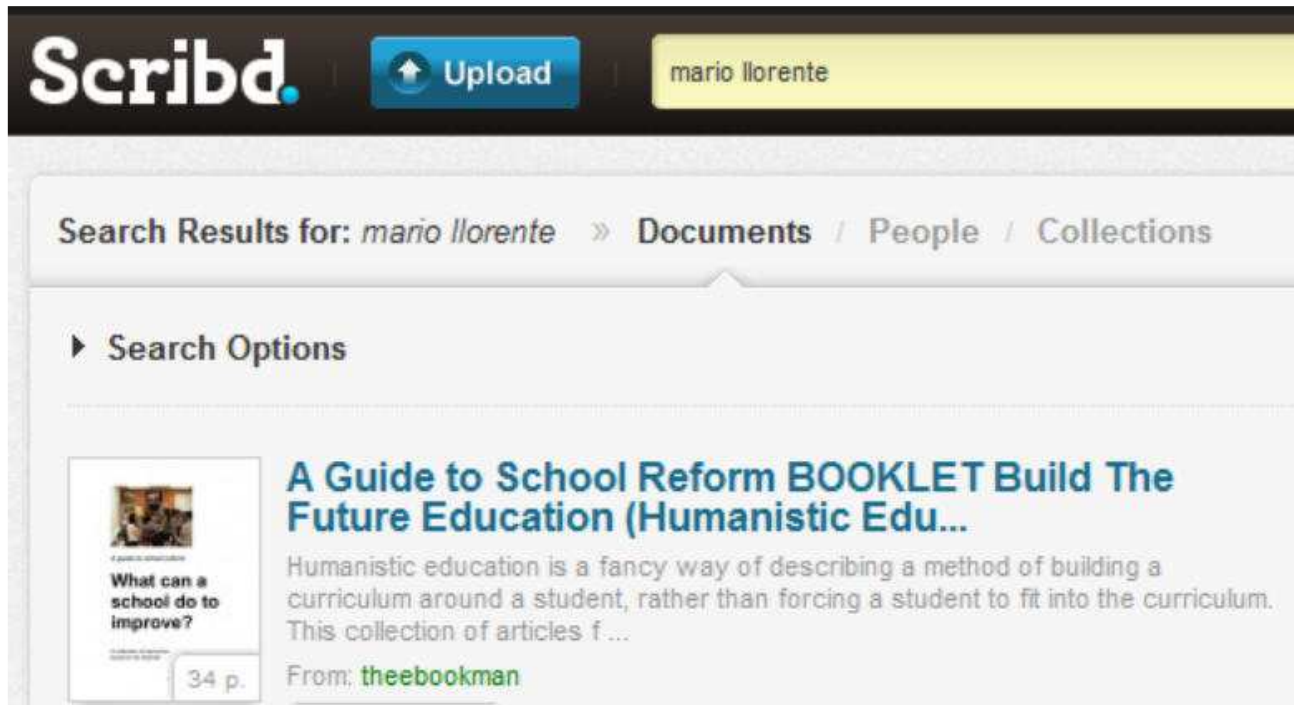
... now you are getting a taste of what happens in **the minds of the four people playing dominos**. It seems complicated, doesn't it? That was my first impression -- **"What if I pause when I shouldn't pause? I'll communicate the wrong message to my partner."** I was very confused when I first learned that dominos has so many layers of psychology.

>> Teachers should separate the rules of the game from the strategies of playing. Notice that we are discussing the opening moves of the blocking game in a separate chapter from the list of rules.

>> Teachers should let students play several hands before the blocking strategy is introduced in class.

The blocking strategy is explained more fully in *The ABCs of Dominos*.

Get this book (***Dominos for Schools***) free on [Scribd.com](https://www.scribd.com).... and at ABCDominos.com.



Another book by Steve and Mario..

Write to us if you need a short video posted to explain one of our books.

We have free video conferences and video workshops available on Youtube.

If you need a concept explained, send your comment to SteveMathTeacher@gmail.com and we'll get started.

G. Resources for More Learning

You have the most important resource for dominos: **your mind**. You now carry the spirit of the real dominos in you and you have the power to spread this valuable life skill to your students and all students in your school and school district. Why not take the first step and share this ebook with other teachers, your principal, parents and students? Go ahead, **download this book**, copy it and email the link to your contacts.

If you bought the physical book, printed by Lulu.com, we thank you and assure you that the net proceeds from the sale of the book (about \$1) went into a variety of projects, including buying sets of dominos, buying more books and distributing them to schools and putting the entire ebook on CD. If you would like the ebook on CD, please send a request and we'll send you two of them, one for you and one for you to give to the media resource person in your local library -- than **COPY THE EBOOK** and give it to a teacher in another school. Usually those experts have the ability to make copies of CDs and DVDs, which we permit under the Creative Commons license that promotes copying and distribution of this book (ebook).



Before we share some of our favorite resources on the Internet, perhaps a bit about our backgrounds will help you see why we have the different talents needed to create this free book.

Mario: *author of two books about dominos (in Spanish)*

Dominos: Game and Science (Domino: Juego y Ciencia)

Dominos: Communication and Strategy (Domino: comunicacion y estrategia)

His email is MarioPatriot@yahoo.com

Artículos consultados:

1-Dominó: Juego y Ciencia, Mario Llorente Leyva

2-El vuelo del gato, Abel Prieto

3-Jugadores de varias de las sociedades de Santiago de Cuba

Para el Profesor Mario Llorente, autor de dos textos sobre la materia, su práctica, en barrios constituye una opción para estrechar lazos de amistad, conocer personas y relacionarse con ellas en un medio sano y distendido.

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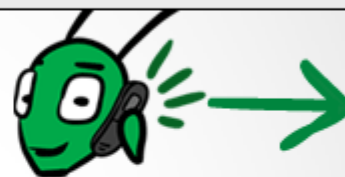
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THE ENTREPRENEUR'S PHONE SYSTEM



Grasshopper



Pedagogía del Domino

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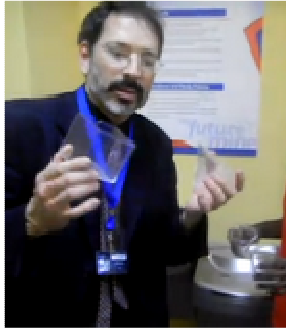
Full Screen

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Llorente Leyva, Mario . 2003. Dominó Juego y Ciencia. Ed. El Mar y la Montaña, Guantánamo Cuba.

Zamora; *Memorias del abismo*, Miladis Hernandez; *Viendo caballos pasar hilvanándose la fe*, Virginia Rodriguez ; *Los anglocaribeños en la Guerra*; *Dominó, comunicación y estrategia*, Mario Llorente; *El Mar y la Montaña*.

As you can see, Mario has been quoted often. This book is his first book in English.



Steve is the founder of **BuildingInternationalBridges.org**, a charity to promote wider use of social networks and computer-based discussions in classrooms. He is a part-time instructor at a charter school and at Broward College in Fort Lauderdale. Born in New York, he received his B.S. in Legal Studies from Nova Southeastern University in 1986. He received his master's degree in public administration with a specialty in environmental growth management from Florida Atlantic University (1989) and compiled a consumer's guide to electric vehicles after working for six months at the U.S. Department of Energy in Washington, D.C

He is "alternatively certified" and holds a temporary certificate for teaching math, social studies, English and English for Speakers of Other Languages in Florida. He has worked at four charter schools, and has taught as a substitute teacher at 14 schools, including a charter school and two Montessori public schools (Virginia Shuman Young Elementary and Sunrise Middle in Fort Lauderdale).

His Youtube channel has several videos with over 200,000 hits (youtube.com/misttermath) and he maintains a portal that links Youtube videos of 30 of the world's most effective ESOL instructors (FreeEnglishLessons.com). His advocacy concentrates on expanding awareness of project-based learning, promoting especially the programs proposed by TheStudentIsTheClass.com and the methods of Dennis Littky (MetCenter.org in Providence, R.I.) and Dennis Yuzenas (a middle school teacher who maintains **WhatDoYaKnow.com**). His videos highlighting visual and active teaching methods are available on Youtube.com/visualandactive and his article about "How to Use Facebook in the ESOL Classroom" appeared in a textbook. He has published more than 20 articles on Scribd.com/thebookman (which garner over 1000 reads per month) and has made over 25 presentations of his seminars "That's Edu-tainment!" and "Reset the Mindset." He is currently coordinating the translation of his book *Guide On the Side* (which prints pieces of his website www.GuideontheSide.com) into eight languages. He wrote a curriculum for a project-based learning high school (QBESchool.com). Eight people have taken his online workshop to become qualified as Visual and Active Teachers (VATT at visualandactive.com).

Steve recommends the following texts to his colleagues

Dr. Abraham S. Fischler's blog TheStudentIsTheClass.com (be nice and visit his blog)

Howard Gitlow: The Deming Guide to Quality and Competitive Position (and a website to interpret Deming: **BuildTheFuture.net**)

Dan Pink: Drive, Free Agent Nation, A Whole New Mind

Malcolm Gladwell: Blink, The Tipping Point, Outliers

Howard Gardner: Intelligence Reframed (pages 161-167 about Performances of Understanding)

Neil Postman: Teaching as a Subversive Activity, Teaching as a Conserving Activity

Dennis Littky: The Big Picture: Education is Everyone's Business

James E. Zull: The Art of Changing the Brain: enriching the practice of teaching by exploring the biology of learning

Daniel Amen's books about brain research

Naisbitt: Mind Set! (many of my teenage students find it intriguing)

Tony Wagner's 7 Global Skills (Collaboration, Communication, Accessing and Analyzing information, Initiative and entrepreneuring, Adaptability and agility, Creativity and imagination and Critical Thinking)

Michael Gurian: The Minds of Boys: Saving our sons from falling behind in school and life.

Thomas Friedman: The World is Flat, Version 3.0 (see pages 309-322).

Karen Armstrong: A History of God (what does *iqra* mean? Chapter 5 is very helpful in broadening the perspective of students, p. 132-169)

Annotated summaries of these books are available at his website GuideOntheSide.com or by emailing Steve at EDDSteve@gmail.com

So, Mario and Steve know something about dominos and math. We hope you will send us your questions.

Websites

Dominoes.com A list of many types of other games with rules

You can learn other variations of dominos at various websites:

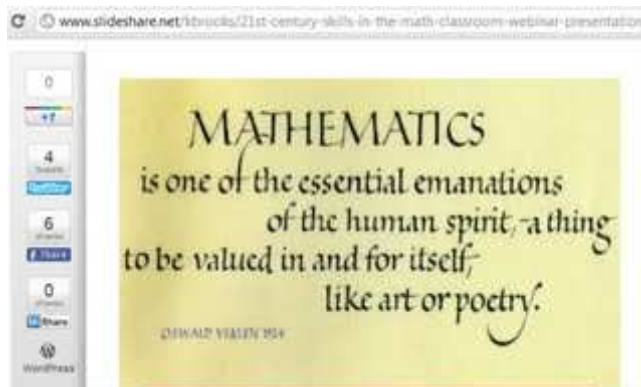
<http://www.domino-games.com/domino-rules/domino-basics.html>

We recommend these sites because you will find that students will get confused -- excellent! The beginning of analysis is confusion.

Math Resources

<http://www.maa.org/devlin/LockhartsLament.pdf>

http://www.maa.org/devlin/devlin_05_08.html Sequel to Lockhart's Lament



A special slide show for math teachers (use **dominos** to reinforce the information in many of these links). <http://www.slideshare.net/kbrooks/21st-century-skills-in-the-math-classroom-webinar-presentation>

Youtube Channels

Youtube.com/abcdominos videos by Mario J. Llorente (commentaries, new videos added at least once every two months)

Part 1 How to Block

<http://www.youtube.com/watch?v=oOgww288WN0>

Part 2 How to Block

<http://www.youtube.com/watch?v=WLNtC7LtOdk>

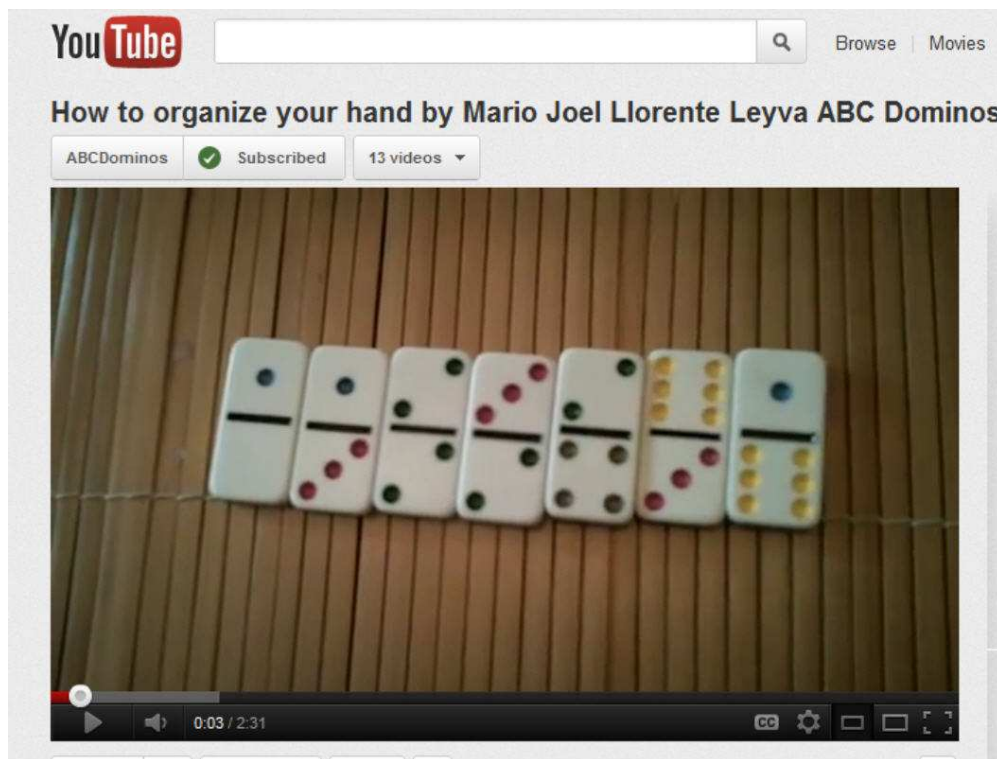
The Math behind Dominos

<http://www.youtube.com/watch?v=BpTfKppLF5A>

Introduction

<http://www.youtube.com/watch?v=RYIrJpG2T34>

You will learn about the "Mathematics Game," where you play in the four directions of the starting tile. For more about this game, see the ABCs of Dominos.





(Mario is not happy with this video because the tiles are made of PAPER. But it's okay: Now you have a strategy for introducing dominos into any school.)

Look at a video called "**Cubans Don't Play Dominoes... What!**" It was captured by a U.S. video journalist. You will see the counterclockwise movement, the quick play, and the communication between partners. You'll also read in the notes of the video **the U.S. person's prejudice** against dominos. <http://www.youtube.com/watch?v=YqZtxpUFIJM>
Watch the counterclockwise play

Here is the ANSWER to the problem in Chapter C:

How many tiles are in a box of double-six dominos? Of course there are not 34 tiles.

There are 28. You can ask students to make a grid of 49 boxes, numbers 0 to 6 on each side (vertical and horizontal axes of the grid). Put in the double numbers and then students will see that $1/6$ is the same as $6/1$, so they can cross out one of the same pairs.

The result: 7 doubles plus 21 combinations = 28 tiles.

It will look organized (and students will discover the pattern) if you arrange the tiles in a cascade:

0/0

0/1 1/1

0/2 1/2 2/2 et cetera.



This book is dedicated to the memory of Gordon Dyke, a teacher who spent more time listening than lecturing. A scholarship fund connected with NewDawn-Association.org pays for the school fees of orphans in Kenya. If you would like to support this program, contact BuildingInternationalBridges.org.

ANSWERS to the conversions

So, how did you do with the conversions?

gallons or quarts to liters 1 gallon = 3.72 liters

F to C 68 degrees F = 20 degrees C

miles to km 1 mile = 1.6 km

yards to meters 1 yard = 0.9 m

inches to cm 1 inch = 2.54 cm

pounds to kg 2.205 lbs = 1 kg

ounces to grams 1 ounce = 28 g

100 miles = ? 160 km

100 km = ? about 62 km

10 liters = ? about 2.7 gallons

10 gallons = ? about 37 liters

10 pounds = ? 4.53 kg

10 kg = ? about 22 pounds

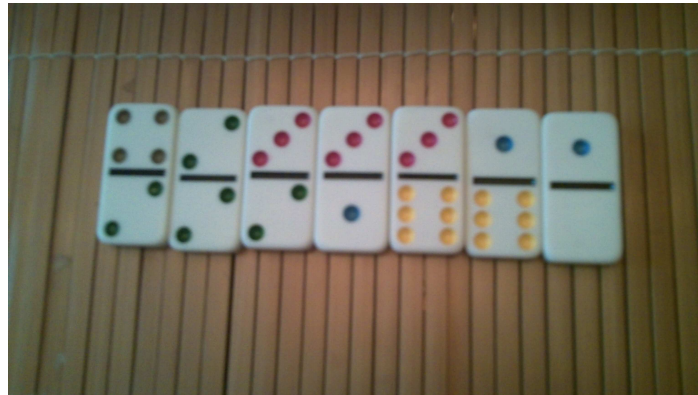


Now it's your turn... what should you play?

MARIO SAYS: *My partner presented the 5, so I will be slow to cover the number exposed by my partner. So I must play the only 2 that I have. The play is 2/3.*
See this youtube video: <http://www.youtube.com/watch?v=n5nrkpiPDal>

If you want to make your own sheet of tiles, you can photocopy these sheets. Encourage your students to create their own domino designs. Search “design dominos worksheet.” A useful website for creating worksheets is found at **ToolsForEducators.com**.

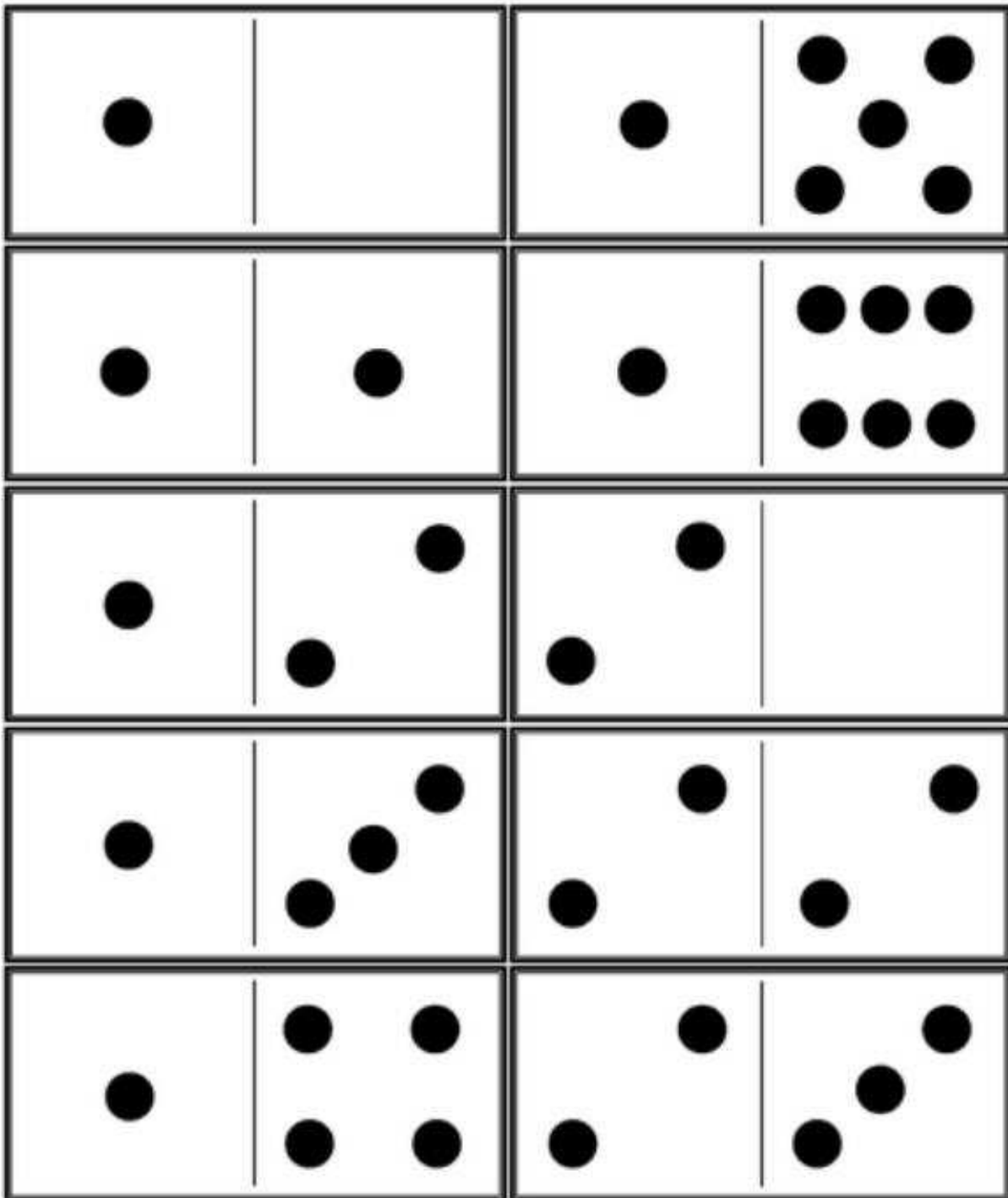
Here's the answer to the “how would Mario?” question at the front of the book.



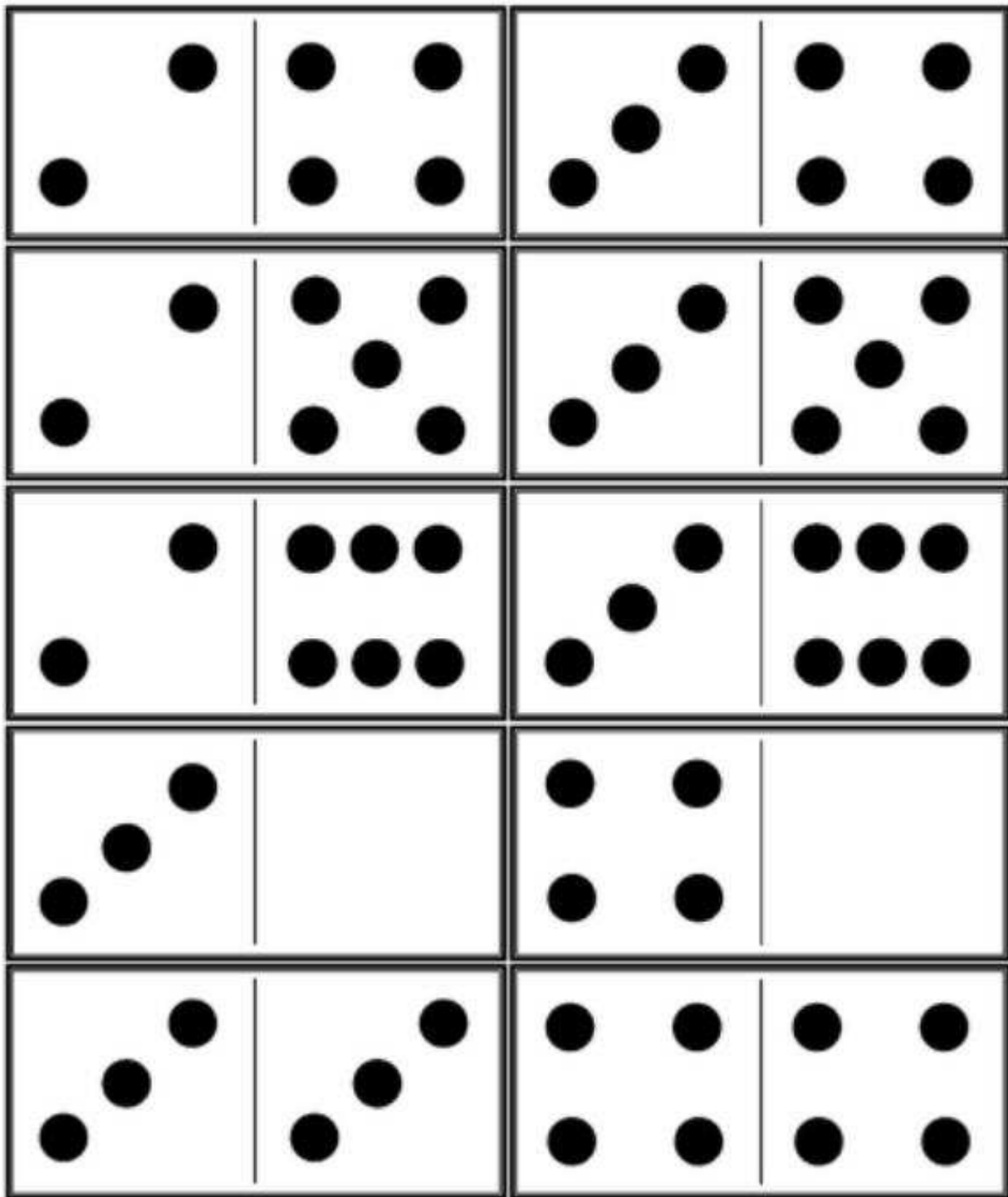
You can also see the video comments at [youtube.com/ABCDominos](https://www.youtube.com/ABCDominos).

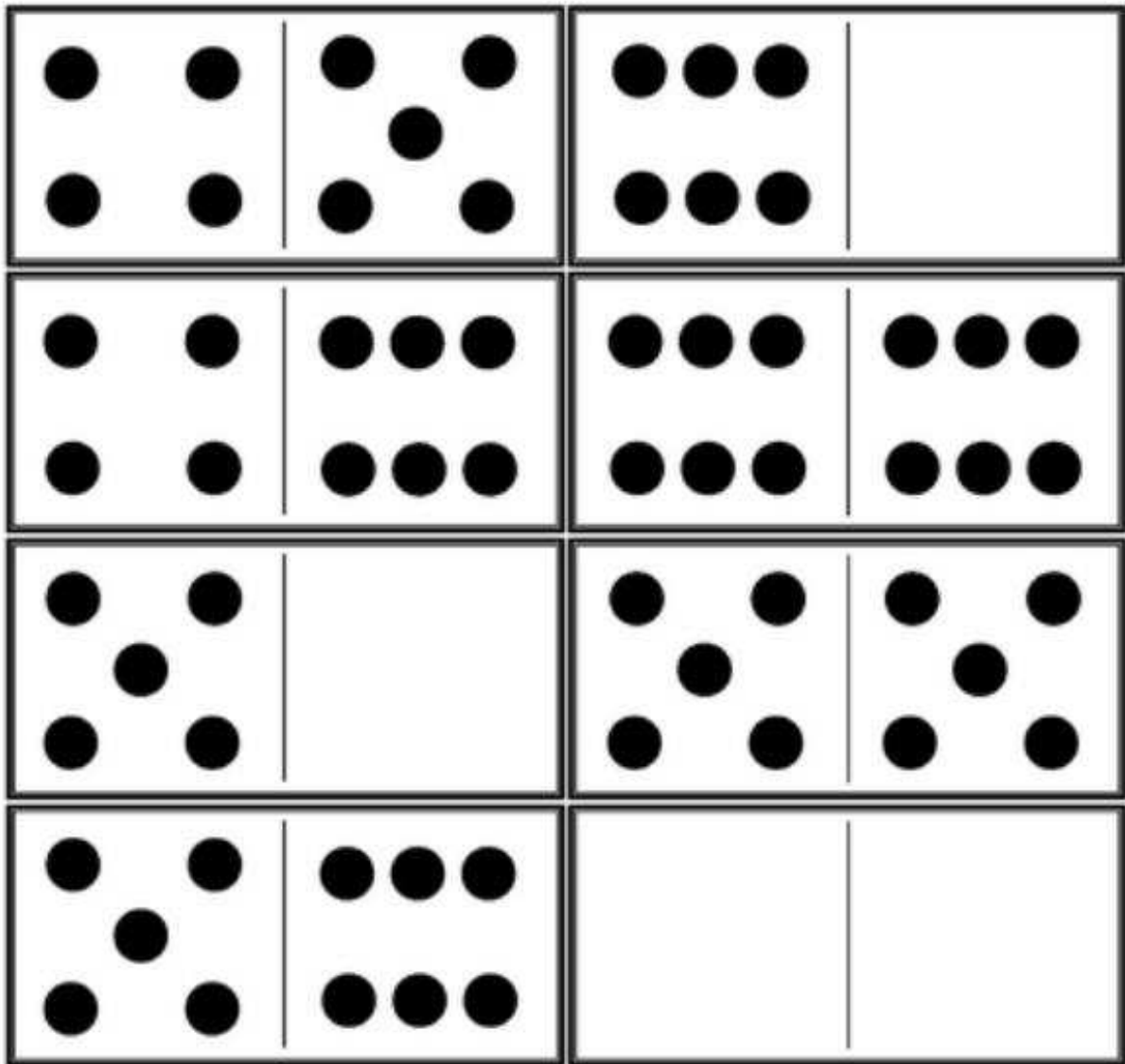


Domino Tiles (standard) <http://www.toolsforeducators.com/dominoes/>
domino (blank) for creative tiles part 1



Domino (blank) for creative tiles part 2





These worksheets came from
<http://www.toolsforeducators.com/dominoes/>

What did we learn (so far)?

1. **Collaboration wins.**
2. **Anticipation helps.**
3. Communication is possible without saying anything.
"The table talks. You just need to listen."
4. It's not a game. **Dominos develops the mind.**
5. Learn **the blocking strategy.**

In the next book (*The ABCs of Dominos*), you will learn much more:

More history
More about communication

Openings
Middle game
Endings

More strategies:
-- how to win
-- how to lose

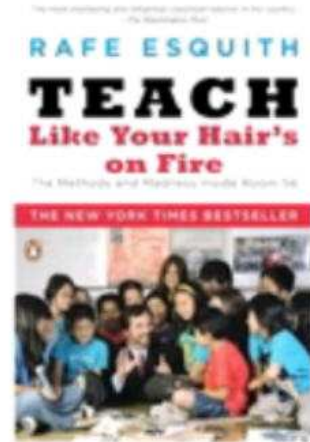


Photo credits

Source of photos of Gates and Buffett
<http://www.nytimes.com/2006/06/27/business/27friends.html>

http://www.youtube.com/watch?v=1ChI2IWbjtg&feature=player_embedded
Gates and Buffett play bridge

Many photos came from the Wikipedia article at <http://en.wikipedia.org/wiki/Dominoes>. A donation of 10 cents per book sold has been made to the non-profit foundation that supports Wikipedia.

Good teachers like Rafe Esquith think of innovative ways to engage the attention of their students. We plan to donate a copy of this book to Mr. Esquith's school. We encourage you to read his books.

End Note

Thank you for reading to the end of the book.

By now you have replaced in your head the myths that you carried before you read this book. We invite you to describe the difference between "individual dominoes" and "team dominoes" -- using the special spelling that we advocate.

There is much work to do now. You are part of the **Academic Dominoes Distribution Team** (a new form of **ADD**). Because you know about the international version of dominoes, you are now part of the team of teachers that can pass on this information to other teachers, parents, students and principals. We invite you to join us in bringing dominoes in classrooms, adding this valuable collaborative skill to the panoply of other games that school children play (backgammon, chess, checkers, etc.).

For more ideas about how you can help spread the REAL game of dominoes (the academic, collaborative **team** version), write to us or call +1 954 646 8246.

Mario Joel Llorente Leyva and Steve McCrea

Founders of the ADD Team

Academic Dominoes Distribution Team

Mariopatriot@yahoo.com

SteveMathTeacher@gmail.com

Skype: SteveEnglishteacher

Telephone: +1 954.646.8246

ABCDominos 11 videos   Subscribed 





Think of the shortest airplane flight you ever took and that's how quickly you'll get through this book. It is called "an airplane book" because if I go down in an airplane, I'll think, *"At least I got that book about dominos finished."*